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10/030,238	03/12/2002	Steffen Burkhardt	E-41482	8983

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EXAMINER

FRANK, ELLIOT L

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 10/10/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/030,238

Applicant(s)

BURKHARDT ET AL.

Examiner

Elliot L Frank

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 March 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Priority*

- ✓ 1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Drawings*

2. New formal drawings will be required subject to the allowance of this application.

✓ Figure 1 is hand drawn and/or numbered. This drawing does not conform to the patent office requirements. While these drawings are acceptable for the analysis of the application, pending allowance the applicant is advised to employ the services of a competent patent draftsman outside the Office, as the Patent and Trademark Office no longer prepares new drawings.

### *Specification*

- ✓ 3. The abstract contained within the published version of PCT EP00/05085 was examined because no other separate submission was found in the file.
- ✓ 4. The abstract of the disclosure is objected to because it is too long, contains item numbers, the purported merits of the invention and legal phraseology. The abstract should be a brief summary of the invention 50-150 words in length. Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

✓ The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being

✓ indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claims 1 and 8 contain the adjectives "numerous" in line 5 and "a kind of" in line 15 that do not give clear metes and bounds to the limitations they modify.

✓ As a result the claims are deemed indefinite.

✓ b. Claim 4 includes the term "per se". The use of this term seems to indicate that the following claim limitation is intrinsic to any correlation program, which would make the requirement well known in the art. Clarification of this limitation is required in order to avoid indefiniteness.

✓ c. Claims 2,3,5-7 and 9-14 depend from the previously indicated claims, and are rejected for containing the same deficiencies.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-3,8-10,13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kellams et al. (USPN 5,854,749 A) in view of Vanhee (USPN 6,232,617 B1).

The limitations of the aforementioned claims, and the relevant citations in Kellams et al., are as follows:

1. A method for setting process parameters of a production process for an elongate sheet-like product (2) to achieve a predeterminable quality (column 1, lines 10-67); with the following features:

numerous process parameters of the production process are recorded as a function of time in the form of process data,

the process data are processed in at least a first data processing unit (5) and output as production data (recording and outputting the process data is read at column 4, lines 13-20),

the surface of the product (2) is observed by means of a surface inspection system (6) within or at the end of the production process in a process step, the observation data being used in at least a second data processing unit (8) to record the entire surface as a kind of surface map with established surface features in the form of surface data and to classify the surface features according to various types and/or according to size and/or according to frequency and enter them in the surface map according to their position (classification of defects is read in Kellams et al. at column 4, lines 32-40),

the various classes and positions of surface features are output as product data,

the production data and the product data are fed together to at least a third data processing unit (11) and investigated there for correlations existing between: them, with rules as to how the product data depend on specific: production data being established (correlating product and control data is read at column 4, lines 41-50),

the process parameters are set in accordance with the established rules to achieve a desired quality (column 5, lines 38-44).

2. The method as claimed in claim 1, the product (2) being rolled steel and the production process being a rolling process, in particular a hot-rolling process in a cast-rolling installation (column 1, lines 10-67).

13. The device as claimed in claim 8, second and third data processing units (5, 8, 11) being arranged spatially apart from one another (Obvious in view of Kellams et al. column 6, lines 12-21 wherein the controlling system can be one or more systems).

14. The device as claimed in claims 8, the first, second and third data processing units (5, 8, 11) being integrated into a common data processing center (Obvious in view of Kellams et al. column 6, lines 12-21 wherein the controlling system can be one or more systems).

While Kellams et al. reads on the core method of the steel processing system claimed in the instant invention, it does not specifically recite the limitations of claims 1-3,8-10,13 and 14 wherein a surface inspection system is required.

Vanhee, analogous to Kellams et al. in that both systems are used for steel processing (Vanhee, column 1, lines 11-23) reads on the additional requirements of

claims 1-3,8-10,13 and 14 wherein the surface scanning system is summarized in the abstract and the additional requirements of claim 3 is read as follows:

3. The method as claimed in claim 1, the surface inspection system (6) being an arrangement having a plurality of sensors, in particular cameras, with downstream image analysis systems (column 1, lines 55-column 2, line 6).

Device claims 8-10 have the same functional limitations as method claims 1-3 respectively, and therefore are obvious in view of the same citations in the combined references.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the inspection elements of Vanhee into the Kellams et al. system to have provided a less data intensive surface scanning solution for a steel rolling process that required less computing power because cosmetic defects would be discriminated from product defects (Vanhee, column 2, lines 25-44).

9. Claims 4-7,11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kellams et al. (USPN 5,854,749 A) in view of Vanhee (USPN 6,232,617 B1) as applied to claims 1 and 8 above, and further in view of Kulkarni et al. (USPN 5,991,699 A).

Claims 4-7 depend from claim 1. Claims 11 and 12 depend from claim 8. Claims 1 and 8 have been shown to be obvious in view of Kellams et al. and Vanhee.

While the combination of Kellams et al. and Vanhee make obvious a defect classification system, the references do not specifically recite how the defects are classified and how this information is applied.

Kulkarni et al., analogous to the previously indicated references in that all three are quality systems for a manufacturing process (Kulkarni et al., column 3, line 60-column 4, line 10), reads on the additional limitations of claims 4-7, 11 and 12 as follows:

4. The method as claimed in claim 1, the investigation for correlations between production data and product data being in particular a correlation program known per se, which considers the entropy in the data space and detects correlations by finding data constellations with minimal entropy (column 3, line 60-column 4, line 10).

5. The method as claimed claim 1, the surface inspection system (6) analyzing the surface data online or offline, so that the product data are already available during production and detected correlations can be used directly for setting production parameters to achieve or maintain a predeterminable quality (column 20, lines 50-63).

6. The method as claimed in claim 1, in which, after detection of certain Correlations in the first or second data processing unit, production data or product data which do not show any correlations are filtered out and excluded from the further processing in the third data processing unit (11) (column 9, line 54-column 10, line 7).



7. The method as claimed in one of the preceding claims, specific production data or product data being passed on in the first data processing unit (5) or second data processing unit (8) without prior analysis, filtering or processing to the third data processing unit (11), to allow possible correlations with these unprocessed data to be found (column 7, lines 28-36).

Device claims 11 and 12 have the same functional limitations as method claims 4 and 5 respectively, and are therefore obvious in view of the same citations in the combined references.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the elements of Kulkarni et al. into the Kellams et al. and Vanhee system to have created a system that grouped defects into certain meaningful cluster approximations of those groups with each cluster having a related causality which could be used to identify corrective actions for the system (Kulkarni et al., column 3, lines 48-57).

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order

for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

USPN 4,131,490 – Oishi et al. – Defect correction system

USPN 6,430,461 B1 – Andorfer et al. – Process control system

USPN 6,546,310 B1 – Doll et al. – Process control system

USPN 6,594,590 B2 – Woods et al. – Defect classification system

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elliot L Frank whose telephone number is (703) 305-5442. The examiner can normally be reached on M-F 7-4:30, 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P Picard can be reached on (703) 308-0538. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-5484.



ELF, October 2, 2003

**LEO PICARD  
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